



Safe Room Project Proves Beneficial for Area Residents

Full Mitigation Best Practice Story

Stone County, Arkansas

Stone County, AR – The sound of cars rushing, car doors slamming and people hurrying to safety was the scenario at Mountain View's unified school campus as area residents made their way to the schools' safe rooms fearing the wrath of a tornado. As it pummeled the town, more than 200 residents, occupying the schools' safe rooms, remained unscathed.



"This tornado was so wide. It was big! Gosh it was big!" Robert Ross said. "I thought it was going to be a direct hit. I recall hoping that the safe room would hold up because there wasn't going to be anything else left when this was over."

Ross, principal of Mountain View Middle School located in Mountain View, Arkansas, had an eerie feeling about the weather forecast on February 5, 2008. What he didn't know was that a tornado categorized as an EF4 on the Enhanced Fujita Scale would soon make its appearance and accomplish the feat of demolishing homes, up-rooting trees, zapping power lines and spreading massive loads of debris.

"Normally the high school shelter is the one that people come to," Ross said. "On this particular day I told the cleaning crew that it looked like it was going to be pretty bad tonight, so leave the doors open. I'd rather have something stolen than to have somebody not be able to get in for protection."

Most of the people that came to the shelter were area residents. "It just seemed to be the people from the eastern part of the town," Ross said. "Ironically, these were the folks whose homes were destroyed or sustained major damage. Why? I don't know." Tornado events are common to the State of Arkansas. According to the National Climatic Data Center (NCDC) of the National Oceanic and Atmospheric Administration (NOAA), the state has experienced more than 1,600 tornadoes since 1950, with 239 tornadoes that were F3 and higher. With respect to tornadoes, Arkansas ranked third in the Nation in related deaths and fifth in injuries.

In an attempt at being pro-active Mountain View School District decided to build safe rooms in the elementary, middle and high school. They took advantage of the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP) following the disaster declaration of December 29, 2000 (FEMA-1354-DR-AR).

"The project came about through a grant. We took advantage of that," Ross said. "Why shouldn't we, especially when you live in tornado alley."

The safe room project was initiated March, 2002 and completed in April, 2004 at a cost of \$1,537,397. Mount View School District received a \$1,153,084 grant from FEMA through its HMGP. HMGP pays up to 75 percent on approved projects that will save lives and prevent or reduce damage from storms and other natural hazards. These grants are made available for both public and private projects and are administered by the state.

The reinforced masonry safe rooms are massive. Total square footage in the elementary school is 4,200 sq. ft, middle school 2,400 sq. ft and high school 2,700 sq ft. Total capacity is approximately 1540 people.

Built according to guidelines outlined in FEMA Publication 361, *Design and Construction Guidance for Community Shelters*, the safe rooms provide a feeling of security.

Precautionary measures were taken to protect the back-up generators should the buildings lose power. The masonry walls surrounding the generators were raised to the height of the equipment to protect the generators from high winds and debris.

Though constructed to protect a student body of 1,300 students, faculty, staff and volunteers during the day, the safe rooms can also be utilized, after school hours, by individuals in the community seeking shelter from the storm.

"The rule of thumb is, if there's a tornado warning, the safe rooms are unlocked and people just come," Ross said.

Residents were made aware of the safe rooms' existence through the local newspaper; however, until February 5, the high school safe room was the only one used.

Students relish the idea that they will be protected as they repeat their monthly tornado drill. When not occupied during drills or tornado warnings the safe rooms are used as classrooms.

"We've learned some lessons from the February 5 tornado event. We are going to be better prepared," Ross said. We are going to have water, extra flashlights and medical supplies stocked in the safe rooms. We're also going to share keys with some trusted individuals in the community and orientate them as to where the supplies and power sources are. We have already changed the locks on the doors to make them universal as well as added more emergency lighting.

Ross continued. "We want to get folks in at "watch" stage. And we are going to post the precise location of all three safe rooms in the newspaper."

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region VI**

State: **Arkansas**

County: **Stone County**

City/Community: **Mountain View**

Key Activity/Project Information

Sector: **Public**

Hazard Type: **Tornado**

Activity/Project Type: **Safe Rooms/Community Shelters**

Structure Type: **Concrete, Reinforced; Masonry, Reinforced**

Activity/Project Start Date: **03/2002**

Activity/Project End Date: **04/2004**

Funding Source: **Hazard Mitigation Grant Program (HMGP); State sources**

Funding Recipient: **Critical Facility - School**

Funding Recipient Name: **MOUNTAIN VIEW SCHOOL DISTRICT**

Application/Project Number: **23R**

Activity/Project Economic Analysis

Cost: **\$1,737,397.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster? **Yes**

Federal Disaster #: **1354 , 12/29/2000**

Federal Disaster Year: **2000**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **1744 , 02/07/2008**

Repetitive Loss Property? **No**

Reference URLs

Reference URL 1: <http://www.fema.gov>

Reference URL 2: <http://www.fema.gov/plan/prevent/saferoom/index.shtm>

Main Points

No Main Points were entered.



Robert Ross, principal of Mountain View Middle School is tanding in front of the safe room plaque



Masonary fence which protects the generator from flying debris



Steel Entry Doors of High School Safe Room